Amendments to the Specification:

Please replace the paragraph beginning on page 7, line 12, with the following amended paragraph:

The instrumented executable code is executed by the CPU using representative data at step ~~319~~ 318. Preferably, the representative data is as accurate a representation as possible of the typical workload that the source code was designed to support. Use of varied and extensive representative data will produce the most accurate profile data regarding cacheability. During execution of the instrumented executable code using representative data, statistics on cacheability-related factors are collected at step 320. These factors are discussed at greater length below. This collection, or "trace", of cacheability statistics is enabled by the instrumentation of the object code and can be accomplished in a variety of ways known in the art, including as a subprogram within the compiler or as a separate program stored in memory. It will also be recognized by those of ordinary skill in the art that the instrumentation of code and collection of profile data can be performed at the same time profile data on other factors (*e.g.*, direct branches) are being generated and collected.